



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,415	12/09/2004	Jan-Olof Svensson	P16012US2	8361

27045 7590 11/30/2005

ERICSSON INC.  
6300 LEGACY DRIVE  
M/S EVR C11  
PLANO, TX 75024

EXAMINER

TIBBITS, PIA FLORENCE

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/506,415

Applicant(s)

SVENSSON ET AL.

Examiner

Pia F. Tibbits

Art Unit

2838

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-20 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

This Office action is in answer to the amendment filed 9/27/2005. Claims 1-20 are pending, of which claims 1-11 are amended, and claims 12-20 are added.

***Drawings***

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the capacitor must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

2. Claim 1 is objected to because of the following informalities: "control circuitry", second occurrence, should be replaced by ---control circuitry,---. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2838

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by **Celenza et al.** [hereinafter Celenza][5049805].

Celenza discloses in figures 1-3 a power supply arrangement for supplying power from a battery 12 to an electric load/ computer system [see fig.3], said arrangement comprising: a controlled switch Q5 having a first state in which a connection is provided from the battery 12 to the load, and a second state in which the load is disconnected from the battery 12, and control circuitry 14 [see fig.1] for controlling the state of the controlled switch Q5, characterized in that the control circuitry 14 is arranged to be disconnected from the battery 12 when the controlled switch Q5 is in its second state [see column 5, lines 29-40; column 6, lines 5-7].

As to claims 3 and 4, see reference and remarks for claim 1 above.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3, 4, 6, 7, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art disclosed by applicant, **Tamai** [5477124].

Tamai discloses in figures 1 and 2 a power supply arrangement for supplying power from a battery 21 to an electric load 1 said arrangement comprising: a controlled switch 2 having a first state in which a connection is provided from the battery 21 to the load 1, and a second state in which the load 1 is disconnected from the battery 21, and control circuitry 6 for controlling the state of the controlled switch 2, the control circuitry 6 configured to be disconnected from the battery 21 when the controlled

Art Unit: 2838

switch 2 is in its second state, and via controlled switch 5. Tamai does not disclose one switch disconnecting both the load and the control circuitry. However, Tamai discloses a second switch 5 that disconnects the control circuitry 6 from the battery 21 [see abstract; column 2, lines 28-30; column 3, lines 18-21]. With regard to the patent using two switches to disconnect the load and the control circuitry: eliminating one switch, cited in the Tamai reference, applicant neither extends the life of the battery being used as a main power supply, nor makes it easier to protect the battery from over discharge in case of a failure of the first switch, which is the object of his invention, as cited in the disclosure. Therefore it would be obvious to one skilled in the art at the time the invention was made that the elimination of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before. See *Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989), *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

As to claim 3, Tamai discloses a back-up power storage C for supplying power to the control circuitry 6, when the controlled switch 2 is in its second state [see column 3, line 32].

As to claim 4, Tamai clearly discloses FET's, e.g, see column 2, line 31.

As to claim 6, see remarks and references above.

As to claim 7: the statement "arranged to supply power to a mobile telephone", it has been held that a recitation with respect to the manner or method in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. See *Ex parte Wikdahl*, 10 USPQ2d 1546, 1548 (Bd. Pat. App. & Inter. 1989); *Ex parte Masham*, 2 USPQ2d 1647, 1648 (Bd. Pat. App. & Inter. 1987); *In re Casey*, 370 F.2d 576, 152 USPQ 235, 238 (CCPA 1967); see also M.P.E.P. § 2111.02. A process or environment of use limitation in an apparatus claim will not patentably distinguish the claim from the prior art unless it somehow imposes a structural limitation. "[I]ntended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art."

Art Unit: 2838

M.P.E.P. § 2111.02 (citing *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963)).

As to claim 17, Tamai discloses the rechargeable battery 21 being a lithium ion battery [see column 2, line 25].

As to the method claims 8, 10, 11: the method steps will be met during the normal operation of the apparatus described above.

7. Claims 2, 9, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art disclosed by applicant, **Tamai** [5477124] in view of **Arnet et al.** [hereinafter Arnet] [6768621].

Tamai does not disclose a switch arranged to be operated manually provided in parallel to the controlled switch.

Arnet discloses in figures 1-10 a switch arranged to be operated manually provided in parallel to the controlled switch in order to be able to shut the system down in the event the controlled switch unintentionally opens during operation [see fig.1; column 2, lines 42-45; column 3, line 66]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Tamai's apparatus and include a switch arranged to be operated manually provided in parallel to the controlled switch, as disclosed by Arnet, in order to be able to shut the system down in the event the controlled switch unintentionally opens during operation.

As to claims 9, 18, see remarks and references above.

8. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art disclosed by applicant, **Tamai**, as described above, in view of prior art disclosed by applicant, **Malhi** [5731686].

Tamai does not disclose the control circuitry further comprises a microcontroller configured to control the controlled switch.

Malhi discloses an apparatus for miniaturizing battery protection and voltage regulation circuits in which such protection and regulation circuits are formed in an integrated circuit (200, 600) and embedded in the casings of individual batteries, or formed in an integrated circuit (600) and embedded in the casing of a battery. Therefore, it would have been obvious to a person having ordinary skill in the art

Art Unit: 2838

at the time the invention was made to modify Tamai's apparatus and include a microcontroller configured to control the controlled switch, as disclosed by Malhi, in order to miniaturize the battery protection and voltage regulation circuits.

As to claim 13, see remarks and references above.

As to claim 15, the statement "integrated with a mobile telecommunication device": the integrated circuit disclosed by Tamai and Malhi provides power to a cellular phone [see column 1, line 18], and therefore, it is an inherent function of the integrated circuit to be integrated with a mobile telecommunication device, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent**.

As to claim 16, see remarks and references above.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

#### ***Allowable Subject Matter***

10. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 5: none of the references of record prior to applicant's filing date discloses, teaches, or suggests a power supply arrangement and method wherein the controlled switch is implemented as a disable switch of a voltage regulator.

#### ***Response to Arguments***

11. Applicant's arguments filed on 9/27/2005 have been fully considered but they are not persuasive.

Art Unit: 2838

a) In response to Applicant's argument that the Celenza reference fails to show certain features of applicant's invention, it is noted that the feature upon which applicant relies (i.e., that the control circuit would be completely disconnected from the battery **via a controlled switch**, i.e., in the instant application via switch 4) is not recited in the rejected claims, since switches 6,7 are not recited. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

b) In response to Applicant's argument that the Tamai reference fails to show certain features of applicant's invention, it is noted that Tamai describes that when the rechargeable battery 21 voltage drops below the reference voltage  $V_{ref}$  due to battery discharge, the comparator 4 output becomes a low level and turns the first switch 2 off. At the same time, the gate-source voltage of the second switch 5 goes to zero also turning the second switch 5 off. Consequently, power supply from the rechargeable battery 21 to the load 1 **as well as** to the comparator 4 is shut off. In other words, rechargeable battery 21 discharge is shut off and excessive rechargeable battery 21 discharge is effectively prevented [see column 3, lines 14-21].

12. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing



Art Unit: 2838

date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in PTO-892 and not mentioned above disclose related apparatus.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is (571) 272-2086. If unavailable, contact the Supervisory Patent Examiner Mike Sherry whose telephone number is (571) 272-2084. The Technology Center Fax number is (703) 872-9306.

16. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

November 12, 2005

Pia Tibbits

Primary Patent Examiner